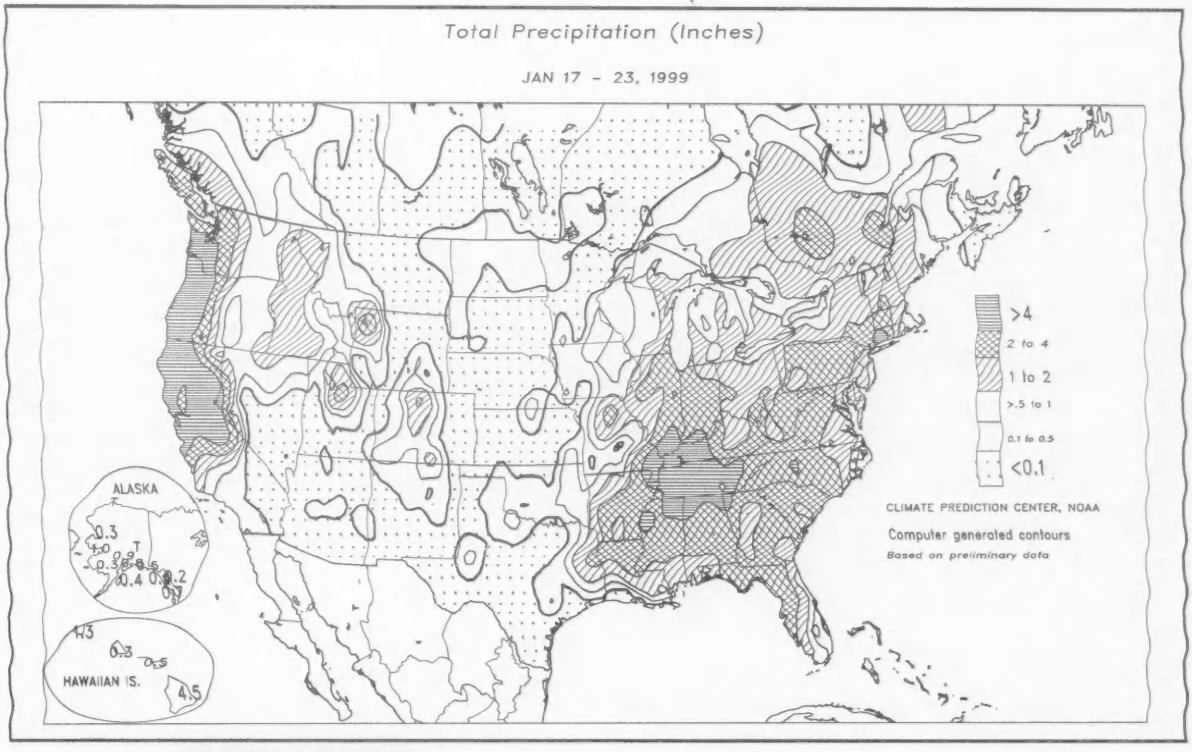
Volume 86, No. 4 January 26, 1999

WEEKLY WEATHER AND CROP BULLETIN

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service

U.S. DEPARTMENT OF AGRICULTURE
National Agricultural Statistics Service
and World Agricultural Outlook Board



HIGHLIGHTS

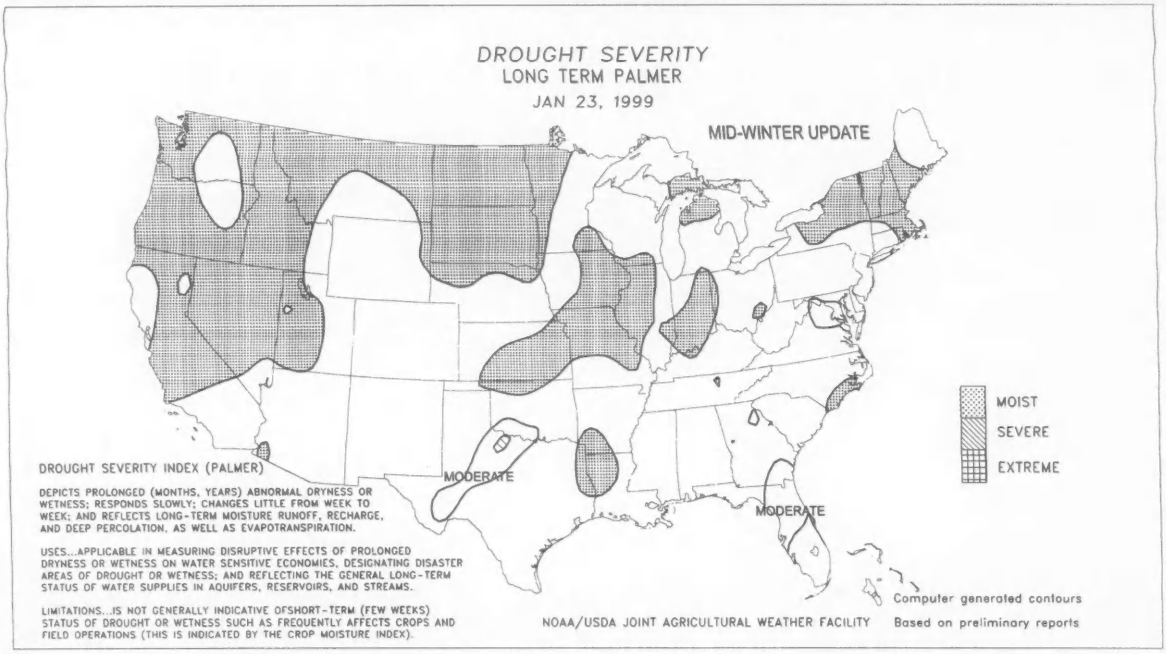
January 17 - 23, 1999

Heavy precipitation gradually shifted southward from the ***Northwest*** *into* ***northern and central California,*** easing flood concerns **west of the Cascades** and improving the **Sierra Nevada** snow pack. During the mid- to late-week period, a major storm system delivered heavy precipitation, mostly rain, from the **Mississippi Valley eastward.** Severe *thunderstorms spawned about six dozen tornadoes across the* **South** on January 21-22, more than half of which struck ***Arkansas*** *on Thursday. In the* ***eastern Corn Belt,*** *the* combination of heavy rain and snow melt resulted in widespread flooding, submerging some low-lying soft red winter wheat fields and increasing the risk of soil heaving.

(Continued on page 2)

Contents

Mid-Winter Palmer Update 2
Temperature Departure &
Extreme Minimum Temperature Maps 3
National Weather Data for Selected Cities 4
National Agricultural Summary &
Snow Cover Map 7
International Weather and Crop Summary 8
La Niña Update 11
Subscription Information &
1998 Weather: The Year in Graphs, Part 2 .. 12


DROUGHT SEVERITY
LONG TERM PALMER
JAN 23, 1999
MID-WINTER UPDATE
MOIST
SEVERE
EXTREME
MODERATE
MODERATE
DROUGHT SEVERITY INDEX (PALMER)
DEPICTS PROLONGED (MONTHS, YEARS) ABNORMAL DRYNESS OR WETNESS; RESPONDS SLOWLY; CHANGES LITTLE FROM WEEK TO WEEK; AND REFLECTS LONG-TERM MOISTURE RUNOFF, RECHARGE, AND DEEP PERCOLATION, AS WELL AS EVAPOTRANSPIRATION.
USES...APPLICABLE IN MEASURING DISRUPTIVE EFFECTS OF PROLONGED DRYNESS OR WETNESS ON WATER SENSITIVE ECONOMIES, DESIGNATING DISASTER AREAS OF DROUGHT OR WETNESS; AND REFLECTING THE GENERAL LONG-TERM STATUS OF WATER SUPPLIES IN AQUIFERS, RESERVOIRS, AND STREAMS.
LIMITATIONS...IS NOT GENERALLY INDICATIVE OFSHORT-TERM (FEW WEEKS) STATUS OF DROUGHT OR WETNESS SUCH AS FREQUENTLY AFFECTS CROPS AND FIELD OPERATIONS (THIS IS INDICATED BY THE CROP MOISTURE INDEX).
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Computer generated contours
Based on preliminary reports

Severe Weather Outbreak, Day 2: A day after 55 tornadoes were reported in the South, including 38 in Arkansas, round two of the January 21-22 severe thunderstorm outbreak is underway. Another 17 tornadoes occurred on this day, more than half of which touched down in Mississippi.

(Continued from front cover)

Farther east, however, rain further eased long-term moisture deficits along the **East Coast**. Late-week rains in **Peninsular Florida** reduced irrigation requirements for winter crops and citrus groves. Meanwhile, hard red winter wheat areas on the **Plains** benefited from light precipitation, which replenished protective snow cover in northern areas and moistened dry topsoils elsewhere. Although cooler air spread across the **Plains** and **Midwest** in the storm's wake, weekly temperatures averaged above normal nationwide. Nationally, nearly 100 daily-record highs were established during the week, and high temperatures exceeded 80°F in parts of the **southern Atlantic and Gulf Coast States**. Weekly temperatures ranged from slightly above normal along the **West Coast** to as much as 20°F above normal in the **Ohio Valley**.

Coast-to-coast warmth dominated the Nation for much of the week. On Sunday, daily-record highs included 70°F in **Bakersfield, CA** and 86°F in **Brownsville, TX**. A day later, highs soared to daily-record levels as far north as **Pueblo, CO** (71°F) and **Goodland, KS** (69°F). On the **Texas Plains**, highs on Wednesday reached 85°F in **San Angelo** and 82°F in **Abilene**. Across **southern Texas**, Thursday's maxima included 88°F in **Corpus Christi** and 91°F in **McAllen**. Warmth spread into the **East** toward week's end ahead of a strong cold front. In **eastern Kentucky**, January-record highs were established on Friday in **Jackson** (77°F) and **London** (74°F). Meanwhile, highs surged to 86°F in **Sarasota, FL** and 81°F in **Florence, SC**. On Saturday, **Morgantown, WV** recorded 73°F, their highest January temperature since January 21, 1959.

Early in the week, a fast-moving storm deposited light snow across the **upper Midwest**, produced strong winds across the **North**, and sparked severe thunderstorms in the **Southeast**. In **Iowa** (and surrounding areas), strong wind gusts–including 52 mph in **Spencer** and 48 mph in **Des Moines**–accompanied the snow, briefly producing near-blizzard conditions. Across **New**

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(Continued from page 2)

England, gusts were clocked to 56 mph in ***Windsor Locks, CT*** and 53 mph in **Worcester, MA**. Meanwhile, monthly snowfall totals continued to grow across the **northern Plains** and **Great Lakes region**. In **North Dakota, Williston's** total (24.9 inches through January 23) was more than three times their January normal. Through the 23rd, this month was the third-snowiest January on record in locations such as **Milwaukee, WI** (36.9 inches), **Minneapolis, MN** (32.6 inches), and **Detroit, MI** (23.4 inches).

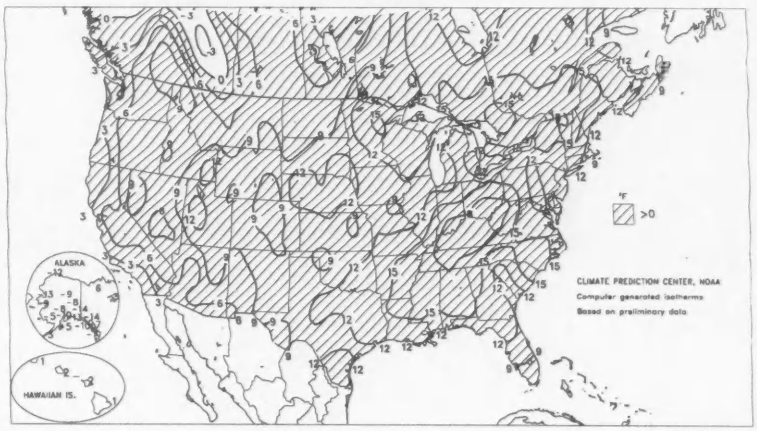
Tremendous snows developed across parts of the **Intermountain West** at midweek. In **Utah's Wasatch Range, Alta** netted 33 inches in 24 hours on January 20-21. In **western Colorado**, 96-hour (January 18-22) snowfall reached 28.0 inches in **Crested Butte** and 27.4 inches in **Ouray**. Farther west, the water equivalent of the **Sierra Nevada** snow pack improved to 16 inches (91 percent of normal) on January 25, up from 9 inches (59 percent) just 10 days earlier, according to the California Department of Water Resources. As storminess shifted **east of the Rockies** after midweek, the rapid development of a low-pressure system across the **southern Plains** produced the lowest January pressure on record (29.39 inches on January 22) in **Brownsville, TX**. The storm system also sparked the previously mentioned early-season outbreak of severe thunderstorms. **Arkansas'** preliminary count of 38 tornadoes on Thursday eclipsed the single-day State record of 34, set on June 5, 1916. Just days earlier, numerous tornadoes had ripped across **Tennessee**, leaving 10 people dead. After 129 U.S. tornado-related deaths in 1998–the most since 1974–the tornado outbreaks of January 17 and 21-22 resulted in 17 fatalities. According to the Storm Prediction Center, the Nation's monthly total of 150 tornadoes (through the 23rd) easily surpassed the previous January record of 52, set in 1975.

Late-week rainfall totaled greater than 1 inch in most areas east of a line from **easternmost Texas to Upper Michigan**. As much as 4 to 7 inches pelted the **Tennessee and lower Ohio River Valleys**. Farther north, snow cover in **Lansing, MI** diminished from 20 inches on January 17 to 3 inches on January 23. In **New York, Buffalo** noted a drop from 30 inches on the 15th to just an inch 10 days later. During the same period, 15 inches of snow disappeared from **Findlay, OH**, while a foot melted away in **Fort Wayne, IN**. Ice jams aggravated high river levels in many areas from the **eastern Great Lakes States** into the **Northeast**. Particularly severe flooding was noted in **northern Indiana's Wabash River basin**, where the **Tippecanoe River** crested on January 25 at 3.3 feet above flood stage, but 1.9 feet shy of the August 20, 1990, high-water mark. The **Wabash River** at **Lafayette, IN** crested approximately 11 feet above flood stage on January 24, the highest level there since April 1994. As of January 25, water levels ranged from 0.4 to 6.3 feet above flood stage (and were rising) on the **lower Ohio River**, with crests expected to range between 4.0 and 11.7 feet above flood stage from January 26-28.

Bitterly cold weather gripped **Alaska** for much of the week, producing temperatures generally 5 to 13°F below normal. Milder air rapidly overtook the State at week's end, however, resulting in phenomenal temperature swings. For example, **McGrath's** temperature dropped to -43°F on Wednesday, then climbed to 39°F, a daily-record high, on Saturday. **McGrath** also posted a 1-day rise of 66°F, from Friday's low of -27°F to Saturday's aforementioned high). Similarly, **Fairbanks** noted a 2-day rise of 71°F, from a minimum of -43°F on Thursday to a maximum of 28°F on Saturday.

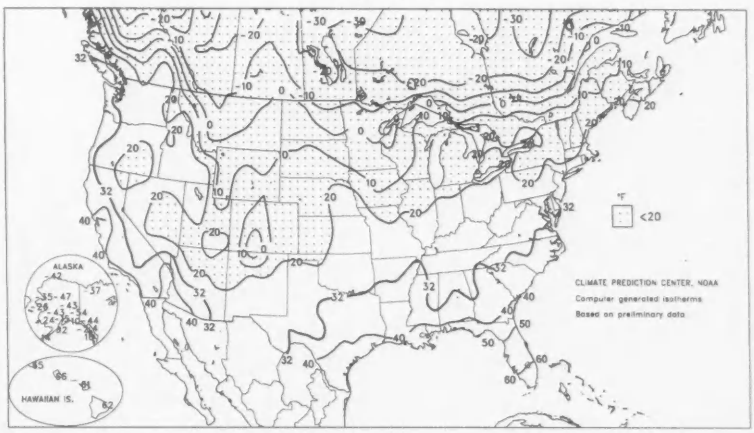
Departure of Average Temperature from Normal (°F)

JAN 17 - 23, 1999



Extreme Minimum Temperature (°F)

JAN 17 - 23, 1999



National Weather Data for Selected Cities

Weather Data for the Week Ending January 23, 1999

Data Provided by Climate Prediction Center (301-763-8000 EXT. 7503)

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP. °F		PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL	BIRMINGHAM	70	50	75	34	60	18	2.66	1.52	1.84	11.82	132	5.55	145	87	43	0	0	4	1
	HUNTSVILLE	66	46	72	30	56	17	2.70	1.56	1.41	14.51	148	7.38	189	98	53	0	1	4	3
	MOBILE	73	56	77	44	64	15	0.94	-0.11	0.69	6.09	69	3.90	111	96	60	0	0	3	1
	MONTGOMERY	74	50	81	33	62	16	2.13	1.08	1.86	4.93	57	2.92	84	93	48	0	0	4	1
AK	ANCHORAGE	13	-4	38	-15	4	-10	0.79	0.62	0.79	2.28	135	0.81	135	87	67	0	6	1	1
	BARROW	-17	-33	6	-42	-25	-12	0.01	-0.02	0.01	0.55	262	0.07	78	81	69	0	7	1	0
	FAIRBANKS	-7	-29	28	-43	-18	-8	0.02	-0.07	0.01	0.61	51	0.10	27	83	67	0	7	2	0
	JUNEAU	24	11	35	4	18	-6	0.15	-0.87	0.13	11.21	143	5.70	167	92	61	0	7	2	0
	KODIAK	32	18	41	12	25	-5	0.45	-1.21	0.33	13.59	110	9.07	162	84	52	0	7	2	0
	NOME	7	-10	33	-26	-2	-8	1.04	0.87	0.68	2.21	151	1.18	193	94	67	0	7	3	1
AZ	FLAGSTAFF	48	24	55	16	36	7	0.03	-0.41	0.01	0.53	13	0.03	2	81	32	0	7	1	0
	PHOENIX	71	48	74	41	59	6	0.00	-0.14	0.00	0.68	46	0.00	0	52	22	0	0	0	0
	TUCSON	71	41	78	35	56	4	0.00	-0.19	0.00	0.45	26	0.00	0	46	17	0	0	0	0
	YUMA	73	51	78	45	62	5	0.00	-0.08	0.00	0.17	23	0.00	0	58	23	0	0	0	0
AR	FORT SMITH	64	38	76	31	51	14	0.59	0.18	0.49	4.27	96	1.23	88	91	48	0	4	2	1
	LITTLE ROCK	65	43	74	32	54	15	1.52	0.79	0.82	5.99	81	2.63	101	93	47	0	1	2	2
CA	BAKERSFIELD	63	44	70	40	54	5	0.77	0.57	0.64	1.38	113	0.83	138	96	52	0	0	2	1
	EUREKA	55	46	60	36	51	3	2.60	1.25	0.92	9.27	88	3.87	85	90	74	0	0	7	2
	FRESNO	61	47	65	38	54	8	1.03	0.57	0.67	1.70	59	1.04	72	96	61	0	0	5	1
	LOS ANGELES	62	53	65	48	57	0	0.56	-0.01	0.29	1.25	37	0.60	34	96	67	0	0	2	0
	REDDING	55	45	58	33	50	4	2.27	0.90	1.10	5.00	50	2.81	61	93	67	0	0	6	1
	SACRAMENTO	58	50	61	45	54	8	1.18	0.31	0.51	2.39	45	1.75	63	97	70	0	0	6	1
	SAN DIEGO	63	54	69	48	59	1	0.22	-0.19	0.14	0.82	28	0.22	16	92	64	0	0	2	0
	SAN FRANCISCO	58	50	62	43	54	5	1.90	0.89	0.72	3.26	51	2.27	70	96	73	0	0	7	2
CO	ALAMOSA	44	8	56	-1	26	11	0.05	-0.01	0.02	0.09	14	0.08	40	93	31	0	7	2	0
	CO SPRINGS	50	25	62	17	37	9	0.02	-0.04	0.00	0.24	35	0.09	41	70	23	0	7	1	0
	DENVER	50	21	63	12	36	6	0.20	0.09	0.15	0.72	71	0.37	100	80	26	0	7	2	0
	GRAND JUNCTION	42	27	48	18	35	10	0.09	-0.03	0.03	0.40	38	0.14	32	93	60	0	7	2	0
	PUEBLO	57	20	71	11	38	8	0.00	-0.07	0.00	0.41	60	0.07	27	80	24	0	7	0	0
CT	BRIDGEPORT	44	33	55	27	38	10	0.78	0.06	0.44	6.54	110	5.49	226	86	63	0	4	4	0
	HARTFORD	42	28	53	21	35	11	0.95	0.20	0.58	3.38	52	2.55	99	92	64	0	5	4	1
DC	WASHINGTON	55	37	70	31	46	12	1.72	1.11	0.79	6.07	118	4.31	211	94	50	0	1	5	1
DE	WILMINGTON	53	36	65	30	44	14	1.22	0.56	1.03	5.30	92	4.26	187	100	64	0	2	5	1
FL	DAYTONA BEACH	78	58	81	53	68	11	0.89	0.26	0.26	3.54	77	2.18	109	98	57	0	0	4	1
	JACKSONVILLE	76	52	81	43	64	12	2.29	1.53	2.17	3.74	73	3.33	139	99	56	0	0	3	1
	KEY WEST	80	72	82	68	76	6	0.05	-0.41	0.04	3.30	93	1.70	112	90	71	0	0	2	0
	MIAMI	80	68	82	64	74	7	0.00	-0.47	0.00	3.95	119	1.97	133	91	61	0	0	0	0
	ORLANDO	81	61	84	55	71	11	0.50	-0.03	0.28	2.52	66	1.91	116	100	53	0	0	3	0
	PENSACOLA	73	57	75	45	65	14	1.41	0.34	1.40	8.50	110	4.14	121	97	63	0	0	2	1
	TALLAHASSEE	74	50	76	40	62	11	2.36	1.29	2.26	5.94	69	4.27	121	98	61	0	0	4	1
	TAMPA	78	63	83	59	70	10	1.34	0.89	1.34	3.91	110	2.99	212	96	65	0	0	1	1
	WEST PALM BEACH	79	65	81	61	72	7	0.06	-0.57	0.03	9.55	210	5.64	275	95	62	0	0	2	0
GA	ATHENS	65	46	74	38	56	14	1.66	0.61	1.61	5.11	68	3.25	95	91	47	0	0	5	1
	ATLANTA	67	48	74	38	57	16	0.74	-0.33	0.39	4.44	57	2.65	75	89	38	0	0	4	0
	AUGUSTA	70	41	77	31	56	12	2.30	1.37	1.30	5.78	91	4.41	148	99	54	0	3	4	2
	COLUMBUS	72	49	78	36	60	15	2.06	1.04	1.02	4.59	55	3.00	88	90	47	0	0	3	2
	MACON	71	45	77	32	58	13	2.02	1.00	1.94	5.76	75	4.24	127	96	47	0	1	5	1
	SAVANNAH	73	47	77	35	60	11	1.85	1.02	1.65	5.53	98	3.21	120	100	56	0	0	2	1
HI	HILO	77	64	79	62	70	-1	4.52	2.34	3.17	16.43	84	6.11	82	95	68	0	0	5	2
	HONOLULU	80	69	82	66	75	2	0.33	-0.45	0.16	2.32	35	2.00	73	88	56	0	0	3	0
	KAHULUI	81	65	84	61	73	2	0.47	-0.48	0.47	2.52	39	1.35	43	89	56	0	0	1	0
	LIHUE	77	68	78	65	72	1	1.33	0.00	0.91	6.51	67	4.15	92	92	72	0	0	4	1
ID	BOISE	45	34	51	30	39	10	0.96	0.63	0.43	3.05	125	1.40	128	93	58	0	2	6	0
	LEWISTON	46	34	53	29	40	6	0.29	0.00	0.15	1.68	76	0.67	68	89	59	0	1	4	0
	POCATELLO	39	30	46	25	35	11	0.95	0.73	0.54	2.08	110	1.35	171	91	64	0	5	7	1
IL	CHICAGO/O'HARE	40	25	46	14	33	12	2.62	2.30	0.88	4.32	118	3.13	261	98	74	0	5	4	3
	MOLINE	35	24	37	14	30	10	1.16	0.84	0.67	2.76	80	1.58	131	97	80	0	6	5	1
	PEORIA	37	26	43	15	32	11	2.43	2.12	0.92	4.61	127	2.84	241	98	74	0	5	6	1
	ROCKFORD	34	23	37	11	29	11	2.10	1.83	0.78	3.31	108	2.41	241	97	85	0	8	4	2
	SPRINGFIELD	40	28	48	20	34	10	0.95	0.64	0.40	2.09	53	1.45	123	98	78	0	4	4	0
IN	EVANSVILLE	58	37	66	26	47	18	2.94	2.36	2.52	7.80	138	4.31	215	93	57	0	4	5	1
	FORT WAYNE	42	26	60	19	34	12	1.93	1.54	1.07	3.47	80	2.37	165	96	70	0	5	6	1
	INDIANAPOLIS	50	35	59	23	43	17	3.30	2.80	1.64	5.49	107	4.48	252	94	70	0	3	5	2
	SOUTH BEND	42	25	55	17	34	11	1.78	1.31	0.90	4.80	95	2.77	160	97	72	0	5	6	1
IA	BURLINGTON	38	29	42	19	33	12	1.94	1.68	0.88	3.88	132	2.23	230	88	68	0	4	6	2
	CEDAR RAPIDS	33	22	36	12	28	10	0.65	0.44	0.45	1.21	51	0.72	92	99	82	0	6	3	0
	DES MOINES	35	25	38	16	30	11	0.23	0.02	0.11	0.69	34	0.28	38	96	72	0	7	3	0
	DUBUQUE	33	22	35	12	28	12	0.13	-0.14	0.02	0.51	17	0.35	36	97	80	0	7	7	0
	SIOUX CITY	36	24	41	18	30	12	0.17	0.06	0.13	0.37	31	0.24	59	91	71	0	7	3	0
	WATERLOO	33	18	36	7	25	11	0.32	0.15	0.14	0.86	45	0.57	95	94	77	0	8	4	0
KS	CONCORDIA	45	28	53	23	36	11	0.03	-0.09	0.02	0.29	23	0.19	43	89	50	0	7	2	0
	DODGE CITY	53	26	59	20	40	10	0.07	-0.04	0.05	0.47	46	0.18	50	80	35	0	7	1	0
	GOODLAND	53	22	69	14	37	9	0.03	-0.05	0.03	0.20	29	0.08	29	80	29	0	7	1	0
	TOPEKA	44	27	53	21	36	9	0.04	-0.16	0.04	1.48	69	0.27	37	88	58	0	6	1	0

Based on 1961-90 normals

Weather Data for the Week Ending January 23, 1999

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP. °F		PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	WICHITA	50	30	58	24	40	10	0.15	-0.02	0.12	1.24	69	0.19	31	88	49	0	5	2	0
KY	JACKSON	61	45	76	33	53	21	2.11	1.28	1.41	11.24	156	6.07	214	84	36	0	0	5	1
	LEXINGTON	59	40	73	29	50	19	1.42	0.81	0.66	7.69	125	4.45	205	92	51	0	1	6	1
	LOUISVILLE	59	40	67	30	50	18	2.61	1.98	1.51	9.65	166	6.39	297	94	55	0	1	6	1
	PADUCAH	61	39	69	28	50	18	3.56	2.86	2.81	8.92	125	5.21	212	95	63	0	3	4	1
LA	BATON ROUGE	74	52	81	38	63	13	1.69	0.59	1.68	8.27	90	4.69	128	94	54	0	0	2	1
	LAKE CHARLES	72	54	76	40	63	13	0.21	-0.79	0.12	8.57	101	4.95	144	98	64	0	0	3	0
	NEW ORLEANS	74	55	80	45	65	13	0.21	-0.92	0.21	4.94	52	2.69	72	96	60	0	0	1	0
	SHREVEPORT	72	48	79	35	60	15	2.05	1.17	2.05	10.49	150	4.25	147	90	43	0	0	1	1
ME	CARIBOU	33	15	43	1	24	15	0.55	0.03	0.26	4.41	87	2.83	151	87	57	0	7	4	0
	PORTLAND	40	25	48	20	33	12	0.44	-0.33	0.21	4.07	56	2.51	94	91	59	0	7	4	0
MD	BALTIMORE	53	34	68	28	44	12	0.97	0.28	0.77	5.21	92	3.94	172	97	59	0	5	5	1
MA	BOSTON	44	32	55	29	38	10	0.77	-0.03	0.71	6.13	92	4.53	169	92	66	0	3	3	1
	WORCESTER	43	31	53	26	37	14	0.96	0.14	0.84	5.87	86	4.41	159	85	61	0	3	4	1
MI	ALPENA	37	28	47	21	32	15	0.88	0.52	0.32	3.20	97	1.78	140	94	70	0	6	6	0
	GRAND RAPIDS	39	25	51	17	32	11	1.37	0.99	0.78	3.28	77	2.07	144	98	75	0	5	5	1
	HOUGHTON LAKE	37	24	46	12	31	15	0.86	0.54	0.26	2.86	92	1.83	158	98	69	0	7	5	0
	LANSING	42	26	56	18	34	13	1.45	1.14	0.89	3.34	96	2.17	187	97	70	0	5	5	1
	MARQUETTE	29	18	36	9	24	12	1.34	0.87	0.58	3.84	90	2.24	134	92	71	0	7	6	1
	MUSKEGON	38	24	47	12	31	8	1.64	1.14	0.51	3.57	73	2.25	123	98	74	0	5	5	1
MN	DULUTH	28	16	35	1	22	15	0.03	-0.24	0.01	1.76	80	0.18	19	94	69	0	7	3	0
	INT'L FALLS	22	3	36	-16	13	12	0.02	-0.17	0.00	0.60	39	0.23	34	91	69	0	7	1	0
	MINNEAPOLIS	31	16	36	-2	24	12	0.42	0.20	0.15	1.13	63	0.68	94	93	70	0	7	4	0
	ROCHESTER	29	16	34	3	23	12	0.30	0.13	0.14	0.81	50	0.52	88	98	79	0	7	3	0
	ST. CLOUD	30	13	37	0	21	14	0.12	-0.05	0.10	1.48	107	0.58	104	90	70	0	7	2	0
MS	JACKSON	72	49	79	34	60	16	1.46	0.31	1.18	10.27	104	4.04	102	96	52	0	0	2	1
	MERIDIAN	71	48	79	29	59	15	1.56	0.43	1.52	6.48	65	2.48	64	99	50	0	1	2	1
	TUPELO	67	45	74	31	56	16	3.98	2.92	3.75	17.10	173	8.91	240	97	53	0	1	3	1
MO	COLUMBIA	43	31	48	21	37	10	0.64	0.34	0.21	2.45	69	1.23	111	94	70	0	4	5	0
	KANSAS CITY	43	30	50	24	36	11	0.78	0.55	0.65	2.07	86	0.97	115	90	63	0	6	3	1
	SAINT LOUIS	50	32	60	26	41	12	1.38	1.00	0.87	3.85	87	3.02	217	96	68	0	3	4	1
	SPRINGFIELD	55	33	68	22	44	13	0.46	0.09	0.37	3.78	83	2.41	176	95	54	0	3	2	0
MT	BILLINGS	42	24	50	5	33	10	0.08	-0.12	0.08	1.15	78	0.56	80	87	46	0	6	1	0
	BUTTE	34	16	40	0	25	8	0.28	0.15	0.07	1.61	177	0.51	116	90	52	0	7	5	0
	GLASGOW	25	11	28	2	18	7	0.15	0.07	0.08	1.41	220	0.81	300	94	80	0	7	4	0
	GREAT FALLS	36	18	48	-11	27	6	0.11	-0.09	0.07	0.51	33	0.30	43	88	42	0	6	2	0
	KALISPELL	37	27	41	9	32	11	0.38	0.05	0.09	3.31	114	1.31	111	96	86	0	6	7	0
	MILES CITY	33	18	46	7	26	10	0.01	-0.10	0.01	1.23	118	0.85	151	95	70	0	7	1	0
	MISSOULA	36	26	40	14	31	8	0.39	0.11	0.13	2.20	104	0.93	97	98	67	0	7	7	0
NE	GRAND ISLAND	43	25	53	22	34	12	0.06	-0.05	0.05	0.39	36	0.28	78	88	51	0	7	2	0
	LINCOLN	42	26	49	22	34	13	0.17	0.06	0.17	0.59	46	0.39	95	92	59	0	7	1	0
	NORFOLK	42	25	51	21	33	14	0.07	-0.04	0.05	0.41	37	0.28	74	86	56	0	7	2	0
	NORTH PLATTE	50	19	55	14	34	13	0.00	-0.08	0.00	0.43	58	0.41	152	92	36	0	7	0	0
	OMAHA	39	27	45	24	33	12	0.29	0.12	0.16	0.89	43	0.57	100	88	62	0	7	3	0
	SCOTTSBLUFF	49	22	58	16	35	10	0.02	-0.09	0.02	0.92	98	0.06	17	90	35	0	7	1	0
	VALENTINE	43	23	55	14	33	13	0.00	-0.06	0.00	0.66	118	0.23	121	92	52	0	7	0	0
NV	ELY	44	26	51	11	35	10	0.14	-0.03	0.10	0.46	36	0.14	26	82	41	0	6	4	0
	LAS VEGAS	64	43	69	37	54	8	0.00	-0.11	0.00	0.04	5	0.00	0	50	23	0	0	0	0
	RENO	50	35	56	29	42	9	0.74	0.49	0.25	0.81	45	0.77	95	96	47	0	1	5	0
	WINNEMUCCA	47	30	51	23	38	9	1.09	0.92	0.41	1.83	112	1.20	211	94	52	0	4	6	0
NH	CONCORD	41	23	50	14	32	13	0.99	0.44	0.86	5.03	100	4.18	221	94	64	0	7	4	1
NJ	NEWARK	52	36	61	31	44	14	1.03	0.27	0.71	6.85	114	5.83	230	89	57	0	1	4	1
NM	ALBUQUERQUE	55	32	61	25	44	9	0.17	0.06	0.12	0.39	46	0.17	47	79	31	0	3	2	0
NY	ALBANY	41	25	52	16	33	13	0.34	-0.18	0.16	3.31	70	2.26	126	98	79	0	5	5	0
	BINGHAMTON	40	28	53	19	34	13	1.13	0.61	0.64	5.74	119	4.14	227	98	88	0	5	5	1
	BUFFALO	42	30	54	24	36	13	0.90	0.32	0.41	7.00	122	5.44	263	95	65	0	5	4	0
	ROCHESTER	43	30	56	18	36	13	0.76	0.31	0.43	5.18	120	3.57	227	88	63	0	5	4	0
	SYRACUSE	42	29	55	19	36	14	0.72	0.22	0.52	6.52	131	4.79	266	86	61	0	4	3	1
NC	ASHEVILLE	60	39	64	28	50	14	2.73	2.00	2.05	9.15	138	5.12	216	94	51	0	2	4	1
	CHARLOTTE	65	42	71	33	54	15	1.71	0.86	0.96	6.80	109	3.52	128	88	47	0	0	3	2
	GREENSBORO	62	41	72	30	51	15	2.10	1.38	1.31	9.70	169	4.47	189	87	48	0	1	3	1
	HATTERAS	65	51	69	40	58	14	0.03	-1.18	0.03	7.82	92	3.09	78	95	65	0	0	1	0
	RALEIGH	68	42	76	31	55	16	2.14	1.34	0.96	8.56	147	5.12	190	93	46	0	2	4	2
	WILMINGTON	72	48	78	37	60	15	0.96	0.09	0.51	7.65	117	3.69	126	93	54	0	0	3	1
ND	BISMARCK	23	12	32	5	18	9	0.19	0.08	0.13	1.13	133	0.88	244	95	81	0	7	2	0
	DICKINSON	28	13	40	5	21	7	0.27	0.19	0.15	0.82	128	0.64	237	95	80	0	7	4	0
	FARGO	23	9	36	-2	16	10	0.02	-0.13	0.01	0.48	40	0.14	27	93	77	0	7	1	0
	GRAND FORKS	20	7	28	-6	13	9	0.43	0.28	0.19	0.99	83	0.74	137	93	78	0	7	3	0
	JAMESTOWN	19	10	29	1	15	7	0.30	0.16	0.26	0.97	103	0.77	171	96	85	0	7	4	0
	WILLISTON	22	12	27	8	17	8	0.76	0.65	0.58	2.31	231	1.57	383	95	81	0	7	3	1
OH	AKRON-CANTON	47	33	60	24	40	15	0.69	0.22	0.20	5.57	121	3.42	207	98	67	0	3	6	0
	CINCINNATI	57	39	67	30	48	20	1.31	0.74	0.48	7.69	150	3.84	197	91	52	0	1	6	0
	CLEVELAND	49	32	63	23	40	16	0.51	0.08	0.26	5.34	115	3.42	219	91	61	0	3	5	0
	COLUMBUS	54	37	69	27	45	19	0.93	0.46	0.43	6.24	138	2.99	181	96	57	0	2	5	0

Based on 1961-90 normals

Weather Data for the Week Ending January 23, 1999

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP. °F		PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	TOLEDO	44	28	57	22	36	14	1.31	0.95	0.83	3.23	75	2.83	192	98	66	0	5	5	1
	YOUNGSTOWN	45	31	55	23	38	15	1.01	0.55	0.36	6.97	153	4.82	283	98	64	0	5	5	0
OK	OKLAHOMA CITY	61	34	70	28	48	12	0.04	-0.21	0.01	1.72	77	0.11	13	83	32	0	3	1	0
	TULSA	60	34	71	28	47	12	0.96	0.62	0.83	2.85	88	1.28	112	86	40	0	4	2	1
OR	ASTORIA	48	42	52	33	45	3	5.57	3.36	1.63	25.99	143	9.47	124	97	77	0	0	7	6
	BURNS	37	24	43	10	31	7	1.31	1.09	0.47	2.87	149	1.72	226	100	71	0	7	6	0
	EUGENE	48	41	52	33	45	4	5.23	3.48	1.34	15.74	107	7.21	119	95	81	0	0	7	5
	MEDFORD	46	36	49	32	41	3	3.18	2.59	1.10	4.98	92	3.75	180	97	67	0	1	7	2
	PENDLETON	49	36	56	34	43	9	0.50	0.17	0.25	2.26	82	0.87	76	89	54	0	0	6	0
	PORTLAND	49	42	52	35	45	6	4.09	2.92	1.19	12.38	121	5.64	137	95	73	0	0	7	3
	SALEM	49	42	54	36	45	6	5.33	4.03	1.63	16.38	144	7.59	168	96	76	0	0	7	5
PA	ALLENTOWN	47	32	62	26	39	13	0.62	-0.08	0.43	4.09	70	3.45	146	98	73	0	4	4	0
	ERIE	46	29	57	20	37	12	0.69	0.23	0.31	5.48	103	1.89	111	89	60	0	5	6	0
	MIDDLETOWN	46	31	62	25	38	10	0.82	0.19	0.42	4.33	81	4.02	190	97	62	0	5	3	0
	PHILADELPHIA	54	38	68	30	46	15	0.95	0.23	0.71	4.82	83	4.01	165	99	56	0	1	5	1
	PITTSBURGH	50	33	66	23	42	16	1.30	0.74	0.45	6.78	141	4.98	259	97	62	0	4	6	0
	WILKES-BARRE	49	34	64	26	42	18	0.43	-0.04	0.15	4.01	98	3.15	201	84	60	0	3	3	0
	WILLIAMSPORT	44	28	58	17	36	12	1.21	0.66	0.59	3.81	77	2.92	154	99	75	0	4	5	1
RI	PROVIDENCE	47	30	56	24	38	11	0.61	-0.25	0.49	5.83	80	4.57	156	93	56	0	5	4	0
SC	BEAUFORT	70	48	74	39	59	11	0.96	0.10	0.50	5.58	93	2.30	83	97	60	0	0	3	1
	CHARLESTON	73	48	79	38	60	13	1.92	1.15	1.38	7.66	134	3.32	130	97	54	0	0	4	1
	COLUMBIA	70	44	77	32	57	14	1.89	0.87	1.46	5.80	84	3.51	107	96	48	0	1	2	1
	GREENVILLE	62	43	67	33	52	12	1.55	0.63	0.98	7.81	109	3.57	118	92	55	0	0	3	1
SD	ABERDEEN	25	11	37	-1	19	9	0.08	0.00	0.08	0.83	124	0.63	233	95	81	0	7	1	0
	HURON	31	19	45	13	25	12	0.00	-0.08	0.00	0.46	62	0.25	93	94	75	0	7	0	0
	RAPID CITY	41	20	53	13	31	8	0.01	-0.07	0.01	0.31	41	0.25	93	88	55	0	7	1	0
	SIOUX FALLS	32	19	37	11	26	12	0.10	-0.01	0.08	0.68	62	0.43	113	95	78	0	7	2	0
TN	BRISTOL	60	37	71	25	48	15	1.56	0.84	0.84	9.17	159	3.94	165	93	46	0	3	3	2
	CHATTANOOGA	65	42	73	30	53	16	2.75	1.66	2.20	13.25	150	6.94	190	99	49	0	2	5	1
	KNOXVILLE	63	42	74	31	52	16	2.37	1.44	1.34	11.77	153	5.83	186	97	42	0	2	3	2
	MEMPHIS	66	50	75	41	58	18	1.69	0.90	1.44	8.30	97	4.05	143	90	50	0	0	3	1
	NASHVILLE	65	43	73	27	54	18	3.75	2.97	2.74	13.37	183	6.97	258	88	43	0	1	3	2
TX	ABILENE	71	41	82	30	56	13	0.09	-0.15	0.09	1.49	84	0.12	16	71	19	0	2	1	0
	AMARILLO	59	31	70	22	45	10	0.30	0.19	0.28	0.77	100	0.36	100	89	31	0	4	2	0
	AUSTIN	74	51	81	45	63	14	0.00	-0.39	0.00	1.58	51	0.02	2	87	45	0	0	0	0
	BEAUMONT	73	55	78	41	64	14	0.10	-0.96	0.10	5.31	63	2.52	69	96	56	0	0	1	0
	BROWNSVILLE	81	61	86	48	71	12	0.02	-0.34	0.02	0.59	24	0.29	25	93	44	0	0	1	0
	CORPUS CHRISTI	79	56	86	43	67	13	0.00	-0.41	0.00	1.19	48	0.46	38	94	40	0	0	0	0
	DEL RIO	75	42	82	36	59	8	0.01	-0.12	0.01	0.21	21	0.02	5	84	42	0	0	1	0
	EL PASO	65	39	71	26	52	9	0.02	-0.06	0.00	0.36	40	0.02	7	56	23	0	1	1	0
	FORT WORTH	69	43	77	33	56	13	0.00	-0.41	0.00	4.44	139	0.01	1	92	35	0	0	0	0
	GALVESTON	70	56	77	45	63	11	0.11	-0.61	0.08	5.48	91	1.79	72	95	65	0	0	4	0
	HOUSTON	75	53	80	40	64	14	0.25	-0.49	0.25	5.50	93	1.62	65	91	45	0	0	1	0
	LUBBOCK	64	34	76	26	49	10	0.15	0.07	0.15	0.41	51	0.15	56	85	22	0	3	1	0
	MIDLAND	70	36	82	25	53	10	0.15	0.07	0.02	0.73	87	0.15	56	64	17	0	1	2	0
	SAN ANGELO	75	41	85	31	58	14	0.01	-0.18	0.01	0.50	37	0.01	2	80	17	0	2	1	0
	SAN ANTONIO	74	48	82	41	61	12	0.04	-0.35	0.01	0.50	18	0.10	8	84	31	0	0	4	0
	VICTORIA	75	53	80	39	64	12	0.01	-0.49	0.01	3.80	104	0.21	13	98	46	0	0	1	0
	WACO	72	42	82	33	57	12	0.22	-0.15	0.21	4.30	141	0.22	18	91	33	0	0	1	0
	WICHITA FALLS	67	37	79	32	52	12	0.26	0.04	0.20	2.18	107	0.26	35	76	29	0	3	2	0
UT	SALT LAKE CITY	47	34	56	25	40	12	0.75	0.50	0.26	2.06	91	0.87	104	87	47	0	3	6	0
VT	BURLINGTON	41	28	49	21	34	19	0.41	0.02	0.35	3.42	90	3.05	219	88	63	0	5	3	0
VA	LYNCHBURG	57	37	72	25	47	13	1.20	0.57	0.41	6.53	122	3.45	163	91	51	0	2	5	0
	NORFOLK	64	44	75	35	54	15	0.94	0.09	0.61	7.50	125	2.17	78	95	52	0	0	3	1
	RICHMOND	61	40	75	28	51	15	0.75	0.03	0.47	8.35	146	3.37	139	94	52	0	1	2	0
	ROANOKE	56	38	69	31	47	13	1.37	0.79	0.94	5.03	103	2.72	142	83	45	0	2	5	1
	WASH/DULLES	53	32	70	26	43	12	1.67	1.06	0.75	5.99	114	4.45	219	98	59	0	5	6	1
WA	HANFORD	47	33	55	29	40	–	0.77	–	0.47	1.24	–	0.80	–	94	61	0	3	5	0
	OLYMPIA	46	38	51	26	42	4	4.05	2.26	1.45	20.72	146	7.72	127	100	90	0	1	7	3
	QUILLAYUTE	46	39	48	30	43	3	3.45	0.25	1.06	32.81	125	11.33	105	100	85	0	1	6	3
	SEATTLE-TACOMA	46	40	51	34	43	3	2.94	1.75	0.69	14.06	140	5.08	124	96	74	0	0	7	3
	SPOKANE	38	30	43	13	34	7	1.14	0.71	0.31	5.24	133	1.98	130	98	79	0	3	7	0
	YAKIMA	41	29	49	25	35	5	1.15	0.89	0.53	2.11	89	1.37	146	100	72	0	5	4	1
WV	BECKLEY	55	39	66	26	47	18	1.16	0.51	0.57	8.08	148	3.71	169	91	48	0	2	5	1
	CHARLESTON	60	39	74	27	49	17	1.29	0.65	0.67	8.04	145	4.86	224	94	54	0	1	3	1
	ELKINS	55	33	66	19	44	17	2.16	1.47	1.76	6.02	104	4.02	173	93	45	0	4	5	1
	HUNTINGTON	61	40	76	27	50	18	1.54	0.91	1.04	7.84	143	4.89	230	86	39	0	1	4	1
WI	EAU CLAIRE	31	18	38	2	24	14	0.41	0.19	0.20	1.63	68	1.14	150	95	73	0	7	5	0
	GREEN BAY	33	22	39	14	28	14	1.38	1.13	0.51	2.29	95	1.97	221	91	73	0	7	3	2
	MADISON	34	19	36	10	27	11	1.18	0.96	0.41	2.30	86	2.00	241	94	70	0	7	5	0
	MILWAUKEE	36	23	36	13	29	11	2.43	2.09	0.99	4.42	124	3.53	285	94	68	0	6	5	2
WY	CASPER	42	21	54	9	32	9	0.02	-0.09	0.02	0.27	25	0.16	39	84	43	0	7	1	0
	CHEYENNE	42	24	52	17	33	6	0.06	0.00	0.06	0.86	125	0.41	148	79	36	0	7	1	0
	LANDER	41	20	50	14	30	11	0.01	-0.10	0.01	0.28	30	0.04	11	77	34	0	7	1	0

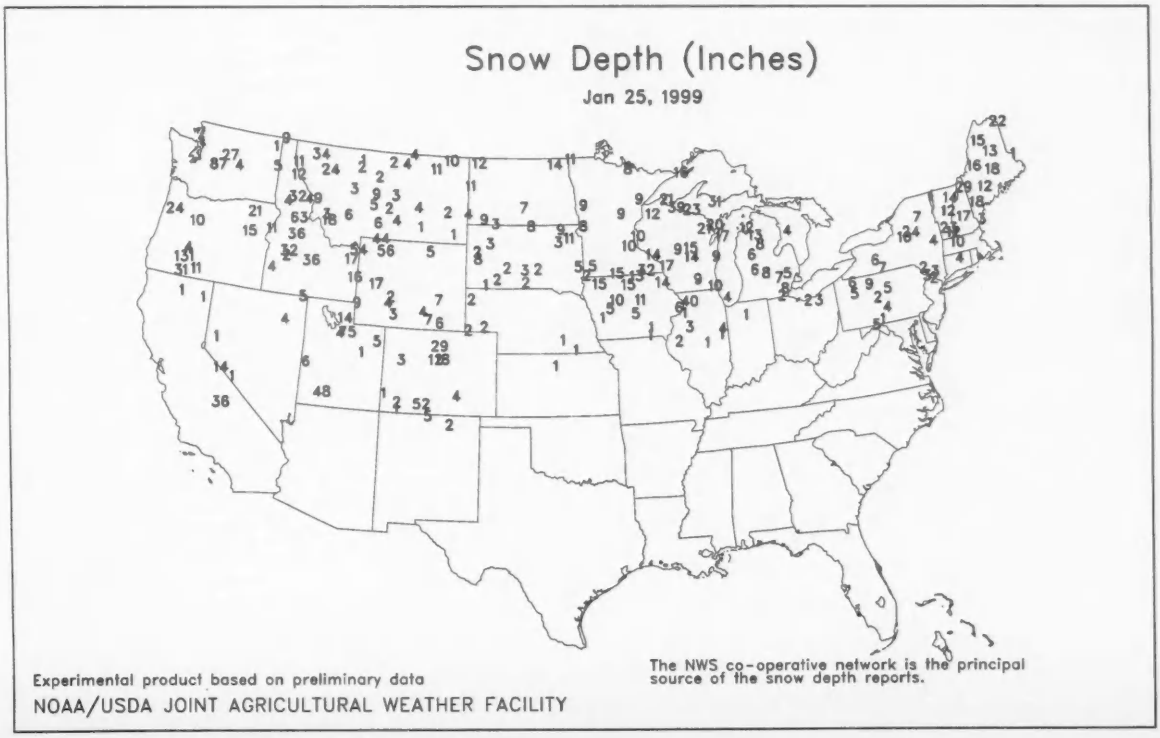
NOTE: These data are preliminary and subject to change. In the past, precipitation totals from a number of stations have been incomplete.

National Agricultural Summary

January 18 - 24, 1999

HIGHLIGHTS

Most of the United States east of the Mississippi River received precipitation in some form. A few areas around the Great Lakes and northern New England received snow, but most areas received rain due to spring-like temperatures. Tornados ripped through parts of the lower Mississippi Valley early in the week. Later, rain and melting snow caused isolated flooding in parts of the middle and northern Atlantic Coast States. Despite the flooding, most areas welcomed the rain, as reservoirs and soils were recharged. In Florida, soil moisture was adequate in the Panhandle, but remained short in most of the Peninsula. Warm weather boosted vegetable growth, while dry weather aided sugarcane planting and harvesting. The combination of spring-like temperatures and rain aided small grain development in the Southeast. Wheat fields in the southern Plains also benefited from warm weather, but growth was limited due to lack of moisture. The dry weather allowed fruit, vegetable, and pecan growers to proceed with harvest and other field operations. The central and northern Great Plains and most of the western Corn Belt also remained dry, while the higher elevations of the central and northern Rockies received additional snow. Heavy rains continued along coastal areas of the Pacific Northwest and extended southward into California. In northern California, rain and warmer weather promoted development of small grains, winter forages, alfalfa, and emerging sugarbeets. Where conditions were drier, farmers planted wheat, cut alfalfa, harvested fruits and vegetables, sprayed for insects and weeds, and prepared seed beds for row crops.


Snow Depth (Inches)
Jan 25, 1999
Experimental product based on preliminary data
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
The NWS co-operative network is the principal source of the snow depth reports.

International Weather and Crop Summary

January 17 - 23, 1998

HIGHLIGHTS

FSU-WESTERN: The fourth consecutive week of unseasonably mild weather continued to provide favorable overwintering conditions for winter grains.

EUROPE: Unseasonably mild weather continued to keep winter grain areas snow-free, leaving crop areas exposed to potential extremes in weather.

NORTHWESTERN AFRICA: Widespread showers continued to improve prospects for winter grains in the vegetative stage.

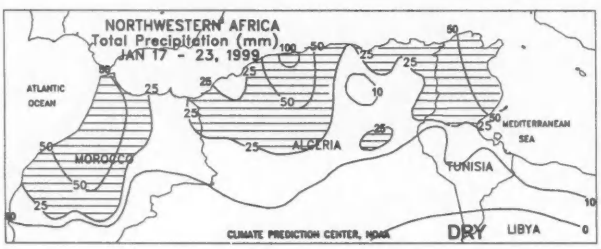
AUSTRALIA: Light to moderate rain benefited summer crops and pastures in New South Wales.

SOUTH AFRICA: Scattered showers across the corn belt broke a brief spell of stressful conditions.

SOUTHEAST ASIA: Heavy showers exacerbated flooding in southern Luzon, Philippines, and reservoir levels are reportedly low in Thailand.

EASTERN ASIA: Winter wheat remained dormant across the North China Plain, despite above-normal temperatures.

SOUTH AMERICA: Below-normal rainfall stressed soybeans in Rio Grande do Sul, Brazil, but widespread weekend rain benefited summer crops in central Argentina.

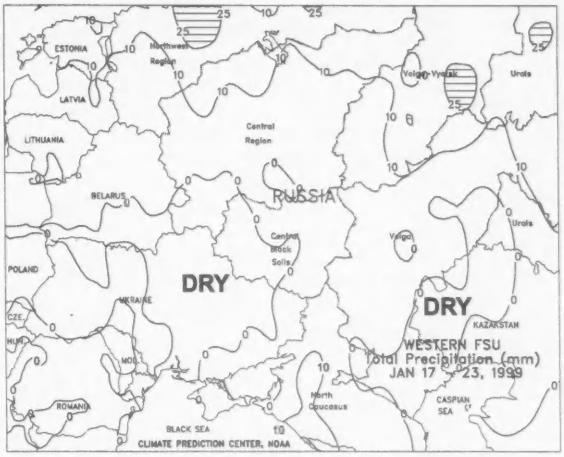


EUROPE

Unseasonably mild weather (weekly temperatures averaging 2 to 6 degrees C above normal) continued to prevail over most of Europe, keeping winter grain areas snow-free. In western Europe, light precipitation (5-20 mm) maintained waterlogged soils in the United Kingdom and the Benelux countries, and brought temporary relief to winter grains in southern Spain that were stressed by previous dryness. In eastern Europe, dry weather spread from winter grain areas in Poland southward through Hungary into Bulgaria. Weather conditions in eastern Europe were warmer than the previous week, with maximum temperatures ranging from 5 to 11 degrees C. As a result, winter grains in eastern Europe remained snow-free during the week, leaving crop areas vulnerable to potential extreme cold.

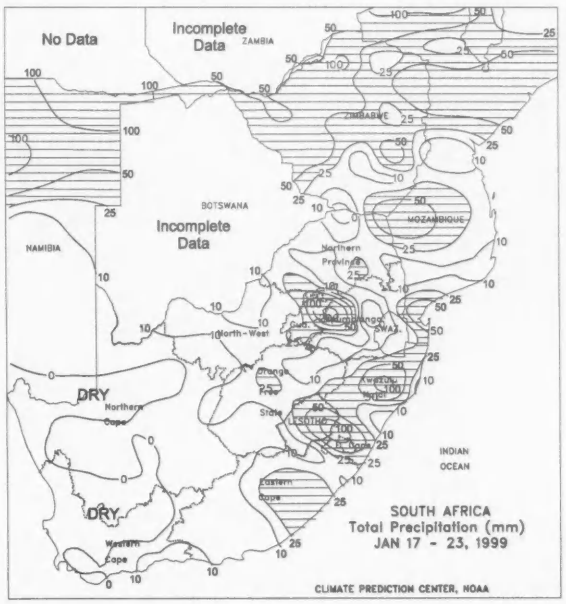
NORTHWESTERN AFRICA

Winter grains were in the vegetative stage over most of the region. Wet weather prevailed in winter grain areas of Morocco, Algeria, and Tunisia, boosting crop prospects. Precipitation amounts ranged from 25 to 60 mm or more in Morocco, western and central Algeria, and Tunisia. Precipitation in eastern Algeria ranged from 18 to 42 mm. Weekly temperatures averaged 1 to 2 degrees C below normal in Morocco and western Algeria, and 1 to 3 degrees C above normal in eastern Algeria and Tunisia.



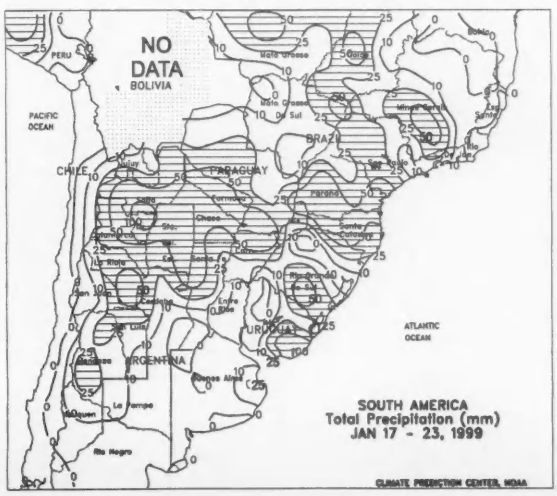
FSU-WESTERN

The fourth consecutive week of unusually mild weather maintained favorable overwintering conditions for winter grains in Russia, Ukraine, Belarus, and the Baltic States. Weekly temperatures averaged 1 to 4 degrees C above normal in Ukraine and southern Russia (southern Black Soils Region, North Caucasus, and lower Volga Valley), and 4 to 10 degrees C above normal in northern Russia, Belarus, and the Baltic States. Despite the mild weather, temperatures remained low enough to keep winter grains dormant throughout the region. However, snow cover in most winter wheat areas of Ukraine and southern Russia remained thin or patchy, leaving crops vulnerable to potential extreme cold. Little, or no, precipitation fell over the region, with significant amounts of moisture (10-25 mm) confined to extreme northern and southern winter grain areas in Russia.



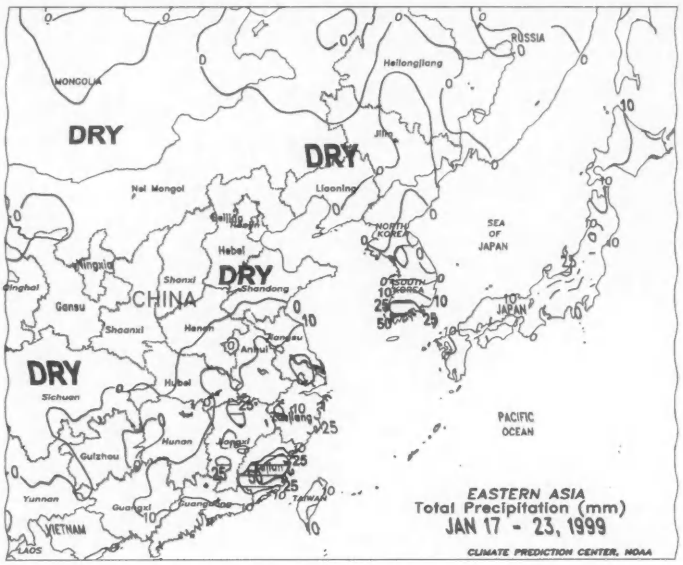
SOUTH AFRICA

Scattered showers (10-25 mm or more) broke a brief spell of warm, dry weather that had affected much of the corn belt. Prior to the rainfall, temperatures in the middle 30's degrees C caused minor stress on reproductive corn and other summer crops in central and western crop areas. Lighter rain (less than 10 mm) fell in eastern Free State and southern Mpumalanga, but early-week temperatures were not as high, and long-term moisture reserves should currently be favorable for crop development. Elsewhere, light to moderate showers (10-25 mm or more) covered crop areas in Kwazulu-Natal and Eastern Cape, including the main sugarcane areas. Dry, warmer-than-normal weather raised crop moisture demands in Western Cape.



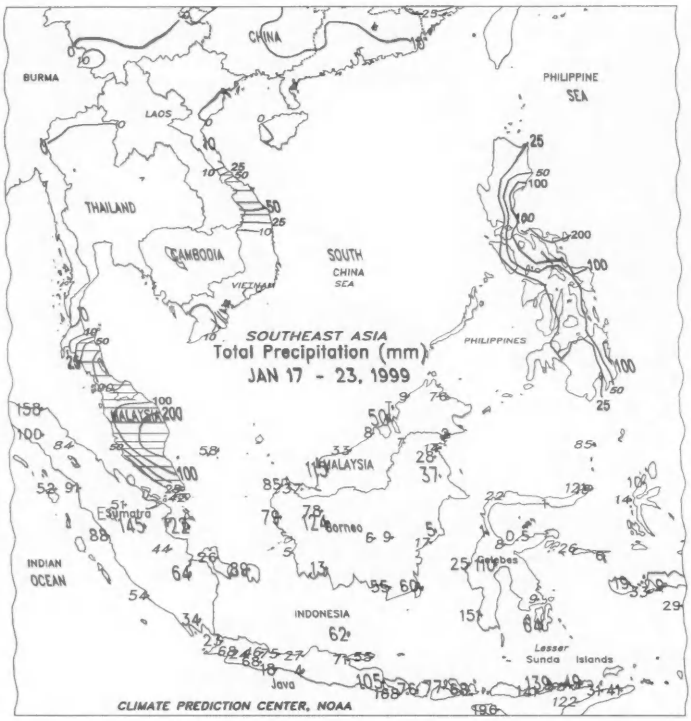
SOUTH AMERICA

In northwestern Rio Grande do Sul, Brazil, continued below-normal rainfall (scattered showers of 10-50 mm) stressed soybeans. In the northwestern portion of the state, where the majority of the soybeans are grown, rainfall has averaged 54 percent of normal during the past 4 weeks. Temperatures averaged 2 to 3 degrees C above normal, increasing crop stress. Elsewhere in southern Brazil, widespread moderate showers (25-60 mm) maintained adequate moisture supplies. In central Argentina, mostly dry weather prevailed during the week. However, widespread weekend rainfall (10-50 mm) on January 24 (*rainfall will be reflected on next week's map*) boosted soil moisture for reproductive corn and vegetative soybeans. Temperatures averaged near normal across central Argentina. Moderate to heavy showers (25-90 mm) covered northern Argentina and southern Paraguay, causing some local flooding, but boosting moisture supplies for cotton and soybeans.



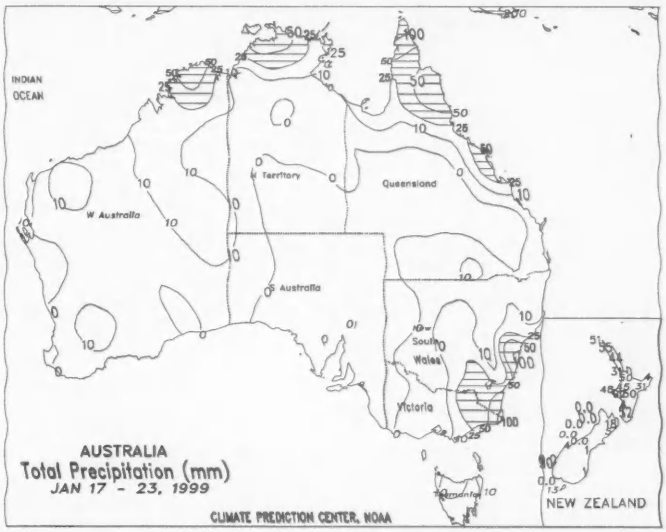
EASTERN ASIA

Winter wheat remained dormant across the North China Plain, despite warm weather (temperatures *2-5 degrees C above normal). Light rain (less* than 15 mm) fell across the southern North China *Plain (southern Henan, northern Anhui, and* Jiangsu), increasing moisture supplies for semi-dormant wheat. *Seasonably dry weather* continued to prevail across the rest of the North China Plain. Light to moderate rain (10-40 mm) covered southeastern China, favoring vegetative winter grains and oilseeds.



SOUTHEAST ASIA

In the Philippines, heavy showers (75-300 mm) *continued to exacerbate flooding in southeastern* Luzon. Elsewhere across the Philippines, seasonable showers (25-100 mm) maintained moisture supplies for second-crop grains. Mostly dry weather aided winter-spring rice *transplanting in southern Vietnam. Seasonably* dry weather prevailed across Thailand, favoring *rice fieldwork, but irrigation supplies are* reportedly scarce due to low reservoir levels. *Showers (40-100 mm) maintained moisture* supplies for main-season rice in Java. Heavy showers (50-375 mm) caused local flooding in portions of the peninsular Malaysia.



AUSTRALIA

Light to moderate rain (5-25 mm or more) boosted moisture reserves for summer crops and pastures *throughout eastern New South Wales. Heaviest amounts* (locally exceeding 50 mm) were concentrated in southeastern sections of the state, not in the main cotton and sorghum areas. In southern Queensland, rain (3-29 mm) aided grazing lands but dry weather dominated primary summer crop areas, including all but the northernmost sugarcane areas. Temperatures averaged *near to above normal throughout the east, raising moisture* demands of cotton, sorghum, and sugarcane. Warmth and *dryness also increased evapotranspirational losses in* pasture lands of South Australia and western Victoria. *Warm, showery weather (temperatures 2-3 degrees C* above normal, rainfall ranging from 1 to 29 mm) covered agricultural districts in Western Australia. In New Zealand, locally heavy rain (25-50 mm or more) in North Island provided crops and pastures with much-needed *moisture, while South Island remained dry.*

La Niña Update: January 19, 1999

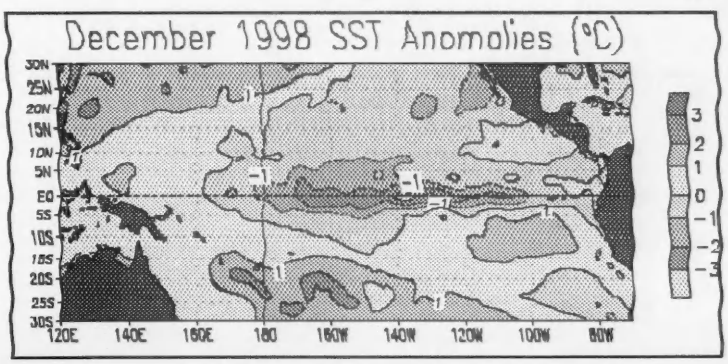
The following is derived from Diagnostic Advisory 99/1 issued by the Climate Prediction Center/National Centers for Environmental Prediction (NCEP) on January 19, 1999.

Cold episode (La Niña) conditions strengthened throughout the tropical Pacific during December as sea surface temperatures *(SSTs) decreased across the central and east-central equatorial* Pacific. Average sea surface temperatures were 1°C below normal *along the equator from 170°E eastward to near 100°W, with* departures near 2°C below normal from 170°W to 115°W. The SST index values in the Niño 3, Niño 3.4, and Niño 4 regions were all at *least -1.0 for the first time since January 1989.*

Tropical convection during December [as inferred from the outgoing longwave radiation (OLR) measured by NOAAs polar-orbiting *satellites] was again suppressed over the western and central* equatorial Pacific and enhanced over Indonesia. The enhanced convection and rainfall over Indonesia is consistent with the pattern of low-level (850-hPa) winds, which show enhanced east-to-west flow over the central and western Pacific and enhanced west-to-*east flow over the eastern Indian Ocean. These features imply* enhanced low-level convergence and rising motion over Indonesia, *giving rise to heavier-than-normal precipitation.*

Further intensification of cold episode conditions is possible, as negative subsurface temperature anomalies and a shallower-than-*normal oceanic thermocline continue to dominate the equatorial* Pacific east of the date line. The latest NCEP coupled model predictions indicate that cold episode conditions in the tropical *Pacific will continue through June 1999. Some of the other* statistical and coupled model forecasts are consistent with the *NCEP coupled model, while others indicate continued cold episode* conditions through the remainder of the year.

Based upon current conditions in the tropical Pacific, on the NCEP SST *predictions, and on results from historical studies on the* effects of cold episodes, we expect wetter-than-normal conditions to continue through March over Indonesia, northern Australia, and *southern Africa. Wetter-than-normal conditions are likely to develop* over Northeast Brazil and continue through May. Over the United *States, drier- and warmer-than-normal average* conditions are expected in southern sections *from southern California eastward to the* Carolinas. Cooler- and wetter-than-normal *average conditions are expected in the northern* Great Plains and upper Midwest. Cooler-than-*normal conditions are also likely over western* and central Canada.



Weekly updates for SST, 850-hPa wind, and OLR are available on the Climate Prediction Center homepage at:

http://nic.fb4.noaa.gov (Weekly Update)

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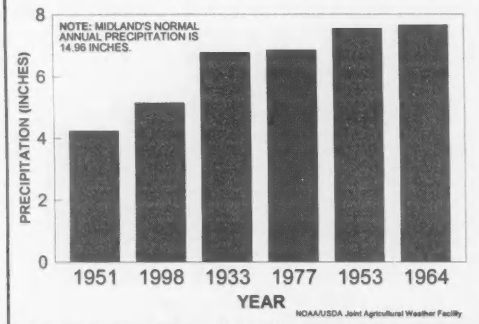
1998 Weather: The Year in Graphs, Part 2

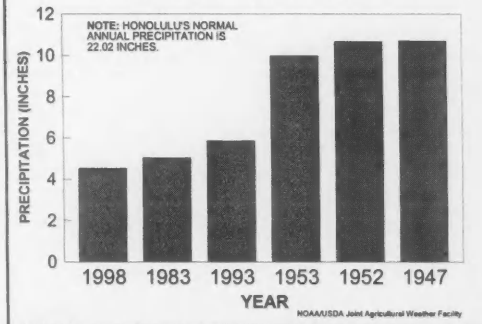
MIDLAND, TEXAS: DROUGHT CONTINUES

LOWEST ANNUAL PRECIPITATION TOTALS ON RECORD



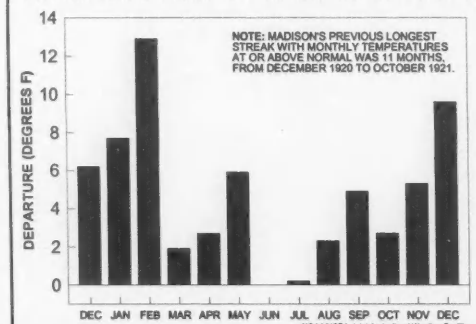
HONOLULU, HAWAII: RECORD DRYNESS

LOWEST ANNUAL PRECIPITATION TOTALS ON RECORD



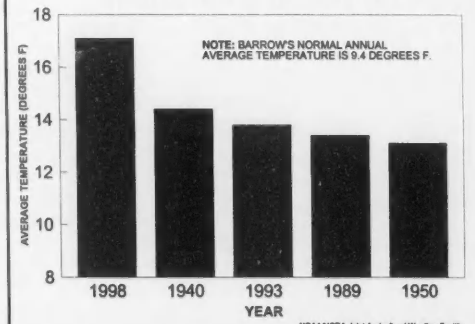
MADISON, WISCONSIN: 13-MONTH WARM SPELL

MONTHLY TEMPERATURE DEPARTURES, DEC. 1997 - DEC. 1998



BARROW, ALASKA: UNPRECEDENTED WARMTH

HIGHEST ANNUAL AVERAGE TEMPERATURE



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